Translation of the pertinent portions of a response by KBA, dtd. 11/30/2005

Responsive to the NOTIFICATION FORWARDING OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION (Article 44.1 PCT) of 10/04/2005

Claims 1 to 20, amended in accordance with Art. 19, PCT, are being submitted.
(Replacement pages 23 to 26, version of 11/30/2005)

New claim 1 was formed from original claims 1 and 2, as well as from characteristics disclosed on page 15, paragraph 2, page 16, paragraph 2, page 17, page 18, paragraph 3 and page 19 of the specification.

New claims 2 to 17 are formed from the characteristics of original claims 6, 8, 9 and 30 to 42.

New claim 20 is formed from characteristics disclosed on page 14, paragraph 2, of the specification.

Explanation:

It is pointed out that new claim 1 is based on a single object, namely to better compensate the transverse elongation and/or longitudinal elongation of a material to be imprinted than has been the case up to now.

Based on document D1, which is considered to be the closest prior art by the international Searching Authority, for attaining this object it is provided to initially compensate systematic deviations expected prior to the start of the printing process between at least two print image locations in the course of providing the printing formes with images (specification, page 16, paragraph 2, page 17, paragraph 2). Then, in addition a transverse elongation occurring in the course of the ongoing printing process is compensated by means of an image generator, and a further portion of transverse elongation occurring during the ongoing printing process is compensated by a displacement of at least one of the printing formes arranged on one of the forme cylinders in the manner of a fine adjustment or tracking of the compensation previously performed in the course of providing the printing formes with images (specification, page 18, paragraph 3, page 17), wherein the displacement of a printing forme can become necessary, since the image regulator is only capable of compensating the transverse elongation within defined limits. Accordingly, the characteristics of new claim 1 operate together for attaining the basic object.

The advantages which can be obtained by means of the invention consist in particular in that, by means of performing several compensation steps, a transverse elongation in particular of the material to be imprinted is quite largely compensated (specification, page 2, line 4).

Enclosures:

Claims, replacement pages 23 to 26, version of 11/30/2005, in triplicate

Claims

1. A method for compensating a transverse elongation and/or a longitudinal elongation of a material (03) to be imprinted, wherein the material (03) to be imprinted successively passes through printing groups (04), arranged one behind the other, of a printing press (01) wherein a portion of the transverse elongation and/or the longitudinal elongation of the material (03) to be imprinted, which is known at the time of the application of an image to at least one printing forme (08) to be arranged in the downstream-located printing group (04), is compensated by means of a design and/or a positioning of a print image location (09) on the printing forme (08), characterized in that, in addition to the preset compensation by means of the design and/or positioning of the print image location (09) on the printing forme (08), a portion of the transverse elongation occurring during an ongoing printing process by means of the printing press is compensated by means of an image regulator (38) after the material (03) to be imprinted has passed through one printing group (04) and prior to its entry into the downstream-located printing group (04), wherein a further portion of the transverse elongation is compensated by a displacement of at least one printing forme (08) on the downstream-located printing group (04) in relation to a reference marker (M) of the material (03) to be imprinted and transversely in respect to the production flow (P) of the material (03) to be imprinted.

2. The method in accordance with claim 1, characterized in that the image regulator (38) deforms the material (03) to be imprinted in a wave shape.

3. The method in accordance with claim 1, characterized in that the the factor DQ of transverse elongation is a function of a mechanical elongation and/or a moisture-related elongation of the material (03) to be imprinted.

4. The method in accordance with claim 1, characterized in that the factor DQ of the transverse elongation changes.

5. The method in accordance with claim 1, characterized in that at least one printing group (04) of two printing groups arranged one behind the other, which has forme cylinders (07) and/or ink-transferring cylinders (06), is driven by a controllable drive mechanism.

6. The method in accordance with claim 5, characterized in that a phase relation assumed between the forme cylinders (07) and/or by the ink-transferring cylinders (06) of at least two printing groups (04) is controlled as a function of the factor DL of a longitudinal elongation of the material (03) to be imprinted..

7. The method in accordance with claim 6, characterized in that the phase relation of the forme cylinders (07) and/or of the ink-transferring cylinders (06) is continuously controlled.

8. The method in accordance with claim 6, characterized in that the phase relation of the forme cylinders (07) and/or of the ink-transferring cylinders (06) is controlled in the course of the ongoing printing process.

9. The method in accordance with claim 1, 5 or 6, characterized in that the image regulator (38) and/or the drive mechanisms and/or the phase relation of the forme cylinders (07) and/or the ink-transferring cylinders (06) are controlled from a control console assigned to the printing press (01).

10. The method in accordance with claim 6, characterized in that at least one position (X1, Y1) of a center point (S) of at least one print image location (09) of a printing forme (08) is changed by operating the drive mechanism which drives the forme cylinder (07) and/or the ink-transferring cylinder (06).

11. The method in accordance with claim 10, characterized in that the position (X1, Y1) of the center point (S) of at least one print image location (09) is changed in the course of the ongoing printing process.

12. The method in accordance with claim 10, characterized in that the position (X1, Y1) of the center point (S) of at least one print image location (09) is changed by a control unit as a function of the color tone of the ink-transferring cylinder (06) and/or the arrangement of the printing group (04) with the forme cylinder (07) supporting the printing forme (08) in the production flow (P) of the material (03) to be imprinted and/or of the position of the printing forme (08) arranged on the forme cylinder (07).

13. The method in accordance with claim 1, characterized in that at least one center point (SB) of the print image (11) which is to be mutually printed from different print image locations (09) is detected by a detection device, which is connected with the control unit.

14. The method in accordance with claim 13, characterized in that the center point (SB) of the print image (11) is changed by means of an actuation of the image regulator (38).

15. The method in accordance with claim 10 or 14, characterized in that the drive mechanism driving the forme cylinder (07) and/or the ink-transferring cylinder (06), and/or the image regulator (38) are operated by the control unit in such a way that the position (X1, Y1) of the center point (S) of the print image locations (09) printing a common print image (11) matches the center point (SB) of the print image (11).

16. The method in accordance with claim 1, characterized in that, transversely in respect to the production

flow (P) of the material (03) to be imprinted, the image regulator (38) directs the air flow from at least three air nozzles onto the material (03) to be printed.

17. The method in accordance with claim 16, characterized in that air flow of the air nozzle arranged between two air nozzles is preferably directed counter to the air flow of its adjoining air nozzles.

18. The method in accordance with claim 1, characterized in that, based on a digital data set, the print imgae location (09) is applied to the printing forme (08) by an image application system.

19. The method in accordance with claim 18, characterized in that a position of the printing forme (08) to be arranged in one of the printing groups (04) is taken into consideration by the image application system when creating the print image location (09) on the printing forme (08) by means of a distribution plan created in a pre-printing stage.

20. The method in accordance with claim 1, characterized in that the print image (11) is detected by an arrangement which optically detects and digitally evaluates the print image (11).